

DISTROHOPPER

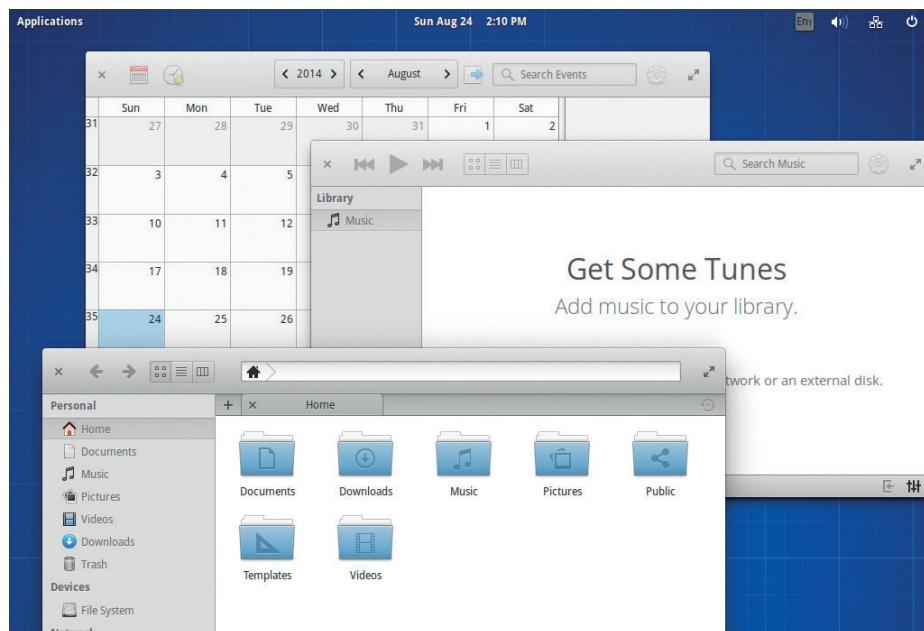
Our pick of the latest releases will slake your thirst for new distros.

Elementary OS

2014's most anticipated distro.

Elementary is such a famous distro that it's hard to believe that we're only just testing out the beta of the third release (named Freya). For those of you who don't know, Elementary is built on top of Ubuntu with the addition of the Pantheon desktop environment, which is known for its focus on styling and simplicity.

Freya comes with an unusual set of applications. For example, *Midori* is the standard web browser and *Geary* fulfills email duties. Some of the software is written from scratch to fit in with the Elementary look. For example, it has its own music player, calendar, text editor and terminal. Most of these use *GTK 3* top bars that let you pack in icons and widgets where most desktop environments place the application's menus. This works well for providing easy access to the key functions, but can leave you wondering where to find the advanced



Elementary gets top marks for style, but power users may be better served elsewhere.

features of the software. A little too often, the answer is that the software doesn't have any advanced features. The default software all has a very consistent look and feel. Of

course, there is loads more software in the repositories, but the further you venture from the standard apps, the more you're likely to lose this consistent feel.

Tanglu

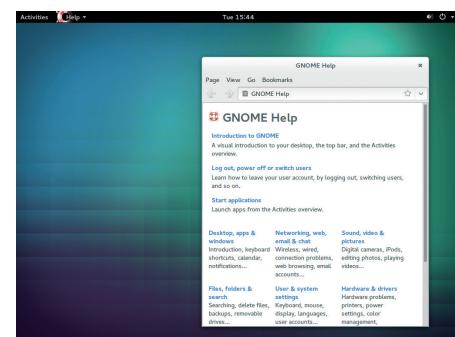
Debian for desktops.

Tanglu is a project designed to polish up Debian to make it a little easier for end users. This doesn't mean adding a few packages and making the desktop environment a little prettier; it means locking the distro into a predictable release cycle, and making sure that the latest software is always available.

This isn't the first time an organisation has tried to provide a tamed Debian for desktop users – it's exactly how Ubuntu got started. However, unlike Canonical's distro, Tanglu is committed to working with Debian and upstream sources rather than pushing home-grown software and its own agenda. Most common desktop environments are

available, but downloads come in flavours for Gnome and KDE. Both of which are in their vanilla states without any customisation. Outside of the desktop environments, you shouldn't expect any surprises. The first Alpha version of Tanglu 2 comes with *Libre Office 4.3* as a productivity suite and *Firefox 30* as a web browser (as well as the native tools for the desktop environment).

It's a new distro (the first version came out in February 2014, and version two is due in October 2014), so it's too early to say if this approach will gain it the popularity of Ubuntu. Tanglu does have a slightly weaker policy on non-free software than Debain, so



Tanglu: a Debian-based system with a fixed release cycle and unadulterated components.

more firmware will be included on the install DVD. This is another sign of Tanglu's focus on home users rather than servers.

Overall, there's a lot to like about Tanglu, but we'd be tempted to wait a little while and see how well it's supported before switching any important machines over.

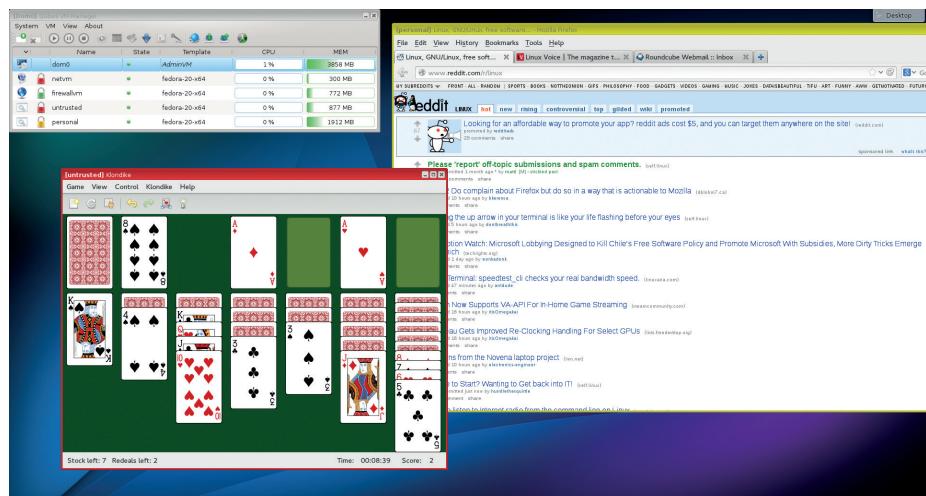
Qubes

The ultimate secure distro.

Qubes works on the principle of security by isolation. It's based on the Xen hypervisor with a series of virtual machines running on top of it. One runs the desktop environment, whereas others are AppVMs that run the applications. By default, there are AppVMs for work, banking, personal use and untrusted use, though this setup could be adjusted for other uses. The principle is that if an attacker compromises any individual VM, they still can't access applications running in the others. So, if you accidentally install some malware in the untrusted VM, it can't penetrate the banking VM.

Despite applications running on different virtual machines, they all appear on the same desktop, and the colour of the window border lets you know which AppVM it's running in. In version 2, you can now run Windows AppVMs inside Qubes in the same way you run Linux VMs.

You may have read all this and thought that the security offered by Qubes is just the same as running various virtual machines in *VirtualBox* or *Qemu* in a regular desktop Linux. This isn't the case. Qubes is, in theory at least, more secure because of its architecture. It runs the Xen Hypervisor on bare metal, then on top of this it runs various virtual machines. Some of these virtual



In this screenshot the web browser is running in the Personal AppVM (in the window with the yellow border), while Solitaire is running in Untrusted (red).

machines are there to handle hardware, networking, etc. Others are there to run applications. However, they all run on top of the Xen hypervisor. This means that in order to break out of one virtual machine and get into another, an attacker has to break through the Xen hypervisor.

Using a more common desktop visualisation method, one Linux kernel is running on the bare metal, and then other Linux (or other OS) kernels run on top of this. To break from one virtual machine to the

next, an attacker has to break through the Linux kernel. In Linux containers, all applications are running in sandboxes on top of a single Linux kernel, so again, an attacker has to break through the kernel.

The Linux kernel is quite secure. However, it's also massive. It's somewhere around a hundred times as many lines of code as the Xen hypervisor. That means that in order to have the same number of bugs overall, the Linux kernel would have to have 100 times fewer bugs per line as Xen.

Symphony A new approach to user-friendliness

Symphony is built around the Mezzo desktop environment, which is designed to simplify the graphical user experience. This simplification is built around the principle that hierarchical menus are confusing, but users find it easy to put the mouse in the corners of the screen. As a result, there are buttons in each corner of the desktop (clockwise from top-left: Settings, Places, Logout, Applications). Clicking on any of these brings up a screen that's a bit like a simplified version of Gnome's Dash.

There are also restrictions on how you can move windows, supposedly to stop users moving them in such a way that important information disappears off screen. The end result of this is a desktop environment that feels like a cross between Gnome Shell and Android.

It's always good to see experiments that hope to make computers more user-friendly, and Mezzo has some interesting ideas. However, at this stage, it seems like it's only ready as a proof-of-concept for people interested in user-interface design. It's still quite rough around the edges, and there isn't any specialised software; instead, it uses mostly *GTK* programs from *LXDE* and *Gnome*, so the applications follow a completely different design philosophy.



The Apps menu (from the bottom-left button) brings up a full screen selection menu.